



VOLUME 9 NUMBER 3

JULY 1992

## ATCO FALL 1992 EVENT

Plans for our 1992 event are now underway. It is expected that we will get together on Sunday 4 October. Anyone wishing to assist in any way or contribute program ideas for this ATCO activity should contact the ATCO Newsletter Editor. Complete details will be mailed to you by the middle of September.

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## SILENT KEY

We regret to report the passing of W8BTW, Ralph Rickett. Ralph was well-known in the Columbus area as the store manager for Universal Amateur Radio and his activities as a long-time member of the Columbus Amateur Radio Association.

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## 1992 SCHEDULED HAMFESTS

12 July Bowling Green; 19 July Van Wert; 1 August Columbus; 2 August Randolph; and 23 August Marysville.

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The ATCO Newsletter is the official publication of a group of television amateurs known as "AMATEUR TELEVISION IN CENTRAL OHIO" and is published in January, April, July, and October.

Membership in ATCO is open to any FCC licensed radio amateur who has an interest in amateur television.

Any publication of material printed in the ATCO Newsletter without the written consent of ATCO is prohibited.

## 10 YEARS AGO

July 1982

Ken, WABRUT, published a newsletter which later became known as the ATCO Newsletter.

On 26 June 1982, the ATV group held its third meeting at Art's QTH (WABRMC) in Westerville. During the meeting, Chuck, WB8LGA, discussed and displayed the ATV Repeater that was very near completion.

A list of ATV stations in Central Ohio was published, and information was requested to make a complete listing of local ATVers. The list included the following ATCO members who are listed on the present roster (July 1992): Wilbur, K8AEH; Dave, WBAER; Terry, WBARE; John, W8CCW; Fred, KBJGY; Art, WABRMC; and Ken, WABRUT.

There was some support for a newsletter to be published regularly for the Central Ohio ATV Hams. Ken said he would like the job, but he added that his travel schedule and other activities would not allow the time to devote to it. The publication of a newsletter, in addition to ATV news, was considered to be just the thing to help glue the ATV group together.

Announcement was made of the ATV Net meeting each Tuesday at 8:00 p.m. local time on 147.45 MHz for the purpose of encouraging ATV activity and the exchanging of ideas. The net was said to be an informal semi-technical and semi-social gathering of local ATVers and had 10 to 15 participants each week.

About eight ATV stations had full color capability. Color transmissions ranged from full live color to computer generated graphics. W8DMR and W8FRQ were showing some of the very special graphics they had generated for ATV.

WABRUT was looking for information to build a tube type amplifier for 1 watt or less drive and 10 plus watts output.

K8AEH wanted to sell a varactor tuner module for \$9.50, a conventional type UHF tuner module for \$3.50, and a HW-202 2-meter transceiver with six pairs of crystals for \$100.

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## 5 YEARS AGO

July 1987

Several stations had acquired some capability for ATV operation on 1.2 GHz. Some of those operating on this frequency were John, W8EOY; Perry, W8OTH; Ken, WABRUT; Bruce, W8UGV; and Bill, W8URI.

(continued on page 4)

## NEW ATCO MEMBERS

We welcome Phillip, N8LRG; Shaun, KB8MDE; and Maxine, N8TUU.

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## RADIO CONTROLLED CAR WITH FSTV

By Dave, KB2ARL

Using my radio controlled car around corners and out of sight used to be a problem until I decided to install a FSTV transmitter on board.

The heart of the system is the one watt P.C. Electronics unit with audio subcarrier installed. This fits quite nicely in the passenger compartment of the car. While at Dayton, I picked up a micro CDD camera. It runs over a wide voltage range, has excellent resolution, and has a great video AGC installed. I mounted this on the front of the car. The mic is on the board, and the additional batteries are in the trunk.

For nighttime operation, I installed switchable headlights. The antenna is a simple low profile horizontal dipole. Eventually, I plan to add a solar panel canopy. A Radio Shack Pocketvision style handheld TV makes a handy portable receiver. I expect to demonstrate this unit at the planned ATCO Annual Fall Event.

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## IMPROVEMENT IN 2-METER SYSTEM PERFORMANCE

By John, W8EOY

Although we had good weather during the past winter, UHF transmission and reception were very poor.

My main interest is ATV, and as you know 2-meters is the preferred mode of voice communication to set up a TV contact. My equipment for 2-meters is a Kenwood TR-7950 feeding an eight element Yagi with RG-8 foam coax. You would think this set-up would be good for at least a 60 mile radius, but it was not.

I had planned to replace my mast with two inch heavy wall aluminum tubing and also do something about the 2-meter antenna. After considering a larger antenna, I decided to change the coax to HELIAX flex.

What an improvement! Signals that were previously in the mud came in at S-5 to S-7. Also, local stations came in at 5-over-9 without rotating the antenna.

If you have access to HELIAX coax, it is a good way to improve your antenna system without much effort.

## VIDEO BANDWIDTH REQUIREMENT

The frequency band needed for the video frequency using a standard NTSC amplitude modulated carrier may be estimated as follows:

Consider that the lowest frequency required corresponds to a line across the screen which is of uniform brightness. This represents a period of  $1/15,750 = .0000635 = 63.5$  microseconds during which the brightness of the beam does not change. If a large number of lines of that brightness followed in succession, the frequency during that time would be zero. This is too awkward to arrange since it requires DC coupling. Thus the lowest frequency transmitted in practice is higher than zero; in fact, it is approximately 60 Hz. In regard to the highest required frequency, this will of course correspond to the highest possible variation in the brightness of the beam along a line.

Now consider that the picture has been divided into 525 lines from top to bottom, so that the maximum resolution in the vertical direction corresponds to 525 changes (from black to white) down the picture. It is desirable that horizontal and vertical resolution be the same. However, because of the 4:3 aspect ratio, the picture is 4/3 times as wide as it is high so that  $525 \times 4/3 = 700$  transitions from black to white during the length of a horizontal line is the maximum required. This corresponds to  $700/2 = 350$  complete (black-white-black) transitions along the line occurring in 63.5 microseconds. The period of this maximum transition is  $63.5/350 = 0.1814$  microseconds. If each transition is made gradual (sine wave) rather than abrupt (square wave), 0.1814 microseconds is the period of this sine wave whose frequency, therefore, is  $1/0.1814 \times 10^{-6} = 5.51$  MHz. This shows that the bandwidth required is somewhat wide and explains why vestigial sideband modulation is sometimes used. (Submitted by Dave, KB2ARL.)

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## NEW ATV PUBLICATION

SPEC-COM has published an ATV Workbook which is available at Universal Radio in Reynoldsburg.

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## 5 YEARS AGO

(continued from page 2)

Contributors to the July 1987 ATCO Newsletter were Bill, W8DMR; Bill, W8ELK; Bill, W8FRQ; Ron, N8DUK; Perry, W8OTH; and Bill, W8URI.

A W8ELK ATV balloon launch from Findlay was scheduled for 11 July 1987.

## ATCO MEMBERS AS OF 30 JUN 1992

KBAEH	Wilbur Wollerman...	1672	Rosehill Rd.....	Reynoldsburg	43068
WBAER	David Sears.....	1678	Kaiser Dr.....	Reynoldsburg	43068
AH2AR	David Pelaez.....	4872	Trailside Court.....	Huber Heights	45424
WBARE	Terry Meredith.....	1524	Ashdowne Rd.....	Columbus	43221
KB2ARL	Dave DiGiuseppe..	391-3A	Directory Dr.....	Columbus	43213
WABATF	Emmett McDonald...	14120	Flintridge Rd. SE...	Glenford	43739
W9AZO	Jim Walter.....	2662	St.Rt. 39 NW RD#3...	Mansfield	44903
KB8BIY	Bob Shaw.....	59	Parkview Ave.....	Westerville	43081
W8CCW	John Ferrell.....	3722	Wagner Court.....	Grove City	43123
NBCYV	Blaire Standley....	721	West North St.....	Springfield	45504
WA3DTO	Rick White.....	5314	Grosbeak Glen.....	Orient	43146
WBEHW	Foster Warren.....	124	East Clark St.....	North Hampton	45349
WABEOY	John Schlaechter...	3199	Lewis Rd.....	Columbus	43207
N8FFO	Edward Hauff.....	2716	Columbus Ave.....	Columbus	43209
WH6FL	Chris Jacoby....	98-1689	Hapaki St.....	Aiea HI	96701
KB9FO	Henry Ruh.....	1545	Lee Street Suite 73.	Des Plaines IL	60018
KB8GZO	Jason Pelaez.....	4872	Trailside Court.....	Huber Heights	45424
KABGZO	Warren Duemmel.....	3488	Darbyshire Dr.....	Hilliard	43026
K8HRR	Ira Bickham.....	260	Tiki Dr.....	Merritt Is. FL	32953
K8HVA	Guy Cunningham, Jr...	31	Birchfield St.....	Plymouth	44865
K8ISM	Steve Iacono.....	1075	Virginia Ave.....	Columbus	43212
KBJGY	Fred Yost.....	330	Dellfield Way.....	Gahanna	43230
N8KCB	Chris Morris.....	3181	Gerbert Rd.....	Columbus	43224
WABKQQ	Dale Waymire.....	225	Riffle Ave.....	Greenville	45331
N8LRG	Phillip Humphries..	2137	Summer Breeze Dr....	Columbus	43223
KB8MDE	Shaun Miller.....	3469	Oakcrest Rd.....	Columbus	43232
WB8OTH	Perry Yantis.....	1850	Lisle Ave.....	Obetz	43207
KE8FN	James Easley.....	1507	Michigan Ave.....	Columbus	43201
WABRMC	Arthur Towslee.....	180	Fairdale Ave.....	Westerville	43081
WABRUT	Ken Morris.....	3181	Gerbert Rd.....	Columbus	43224
W8RVH	Richard Goode.....	9391	Ballentine Rd.....	New Carlisle	45344
N8TUU	Maxine Duemmel.....	3488	Darbyshire Dr.....	Hilliard	43026
W8TV	Bob Dye.....	6118	Sedgwick Rd.....	Columbus	43235
WB8UGV	Bruce Jaquish.....	4817	W. Arlington Park...	Fort Wayne IN	46835
WB8URI	William Heiden.....	4435	Kaufman Rd.....	Plain City	43064
KABWGX	Martha Yost.....	330	Dellfield Way.....	Gahanna	43230

### \*\*\*\*\* ATCO FINANCIAL STATEMENT

Cash balance as of 31 March 1992: \$586.19. Receipts: \$40.00 from dues. Expenditures: printing charges for April 1992 ATCO Newsletter \$13.69; postage for April 1992 ATCO Newsletter \$8.70; miscellaneous costs incidental to publication of newsletter \$2.43; total expenditures \$24.82. Summary: cash balance as of 31 March 1991 \$586.19; receipts \$40.00; expenditures \$24.82; balance as of 30 June 1992 \$601.37.

The above financial report was prepared as of 30 June 1992 by Warren G. Duemmel, KABGZO, ATCO Acting Treasurer.

Editor: Warren, KA8GZQ

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FIRST CLASS MAIL  
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ATCO NEWSLETTER  
c/o Warren G. Duemmel  
3488 Darbyshire Drive  
Hilliard OH 43026

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**WANTED! WANTED! WANTED!**

Please send articles, news items, etc. for the ATCO Newsletter.

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